UNINTERRUPTIBLE POWER SUPPLY

SPS.HOME

General index

1. Introduction

1.1. Gratefulness letter

1.2. Using this manual

1.2.1. Conventions and used symbols

1.2.2. For more information and/or help

1.2.3. Safety and first aid

2. Quality and Standards Guarantee

2.1. Management declaration

2.2. Standard

2.3. Environment

3. Presentation

3.1. Views

3.2. Description of the system

3.2.1. Operating principle.

3.2.2. Main quality performances

4. Installation and operating

4.1. Important safety instructions

4.2. Inspection

4.3. Location

4.4. Charge

4.5. Connection of one computer

4.6. Connection of peripherals devices

4.7. Connection of Modem / Phone line

4.8. Connection of communications

4.9. Start up / shutdown

4.10. ColdStart function

5. Free download of WinPower software

6. Maintenance, warranty and service

6.1. Troubleshooting guide

6.2. Battery replacement

6.3. Warranty conditions

6.3.1. Covered product.

6.3.2. Warranty terms.

6.3.3. Out of scope of supply.

6.5. Technical service network.

7. Annexes

7.1. Technical specifications

1. Introduction

1.1. Gratefulness letter

We would like to thank you in advance for the trust you have placed in us by purchasing this product. Read this instruction manual carefully before starting up the equipment and keep it for any possible future consult that can arise.

We remain at you entire disposal for any further information or any query you should wish to make.

Yours sincerely.

SALICRU

- ❒ The equipment here described can cause important physical damages due to wrong handling. This is why, the installation, maintenance and/or fixing of the here described equipment must be done by our staff or specifically authorised.
- ❒ According to our policy of constant evolution, we reserve the right to modify the specifications in part or in whole without forewarning.
- ❒ All reproduction or third party concession of this manual is prohibited without the previous written authorization of our firm.

1.2. Using this manual

The purpose of this manual is to give explanations and procedures for the installation and operating of the equipment. This manual has to be read carefully before installing and operating it. Keep this manual for future consults

1.2.1. Conventions and used symbols

«Warning» symbol. Carefully read the indicated paragraph and take the stated prevention measures.

«Danger of electrical discharge» symbol. Pay special attention to it, both in the indication on the equipment and in the paragraph referred to this user's manual.

«Main protective earthing terminal» symbol. Connect the earth cable coming from the installation to this terminal.

«Bonding earth terminal» symbol. Connect earth from load or loads and case or battery cabinet to this terminal.

«Notes of information» symbol. Additional topics that complement the basic procedures.

Preservation of the environment: The presence of this symbol in the product or in their associated documentation states that, when its useful life is expired, it will not be disposed together with the domestic residuals. In order to avoid possible damages to the environment, separate this product from other residuals and recycle it suitably. The users can contact with their provider or with the pertinent local authorities to be informed on how and where they can take the product to be recycled and/or disposed correctly.

1.2.2. For more information and/or help

For more information and/or help of the version of your specific unit, request it to our Service and Technical Support **(S.T.S.)**.

1.2.3. Safety and first aid

Together with the equipment and this «Installation and operating manual», it is supplied the information relating to «Safety instructions» (See document EK266*08). Before proceeding to the installation or its start up, check that **both informations** are in hand; otherwise request them. It is compulsory to meet the «Safety instructions», being the end user the legal responsible as for its observance. Once read, keep them for future consults that could arise.

2. Quality and Standards Guarantee

2.1. Management declaration

Our target is the client's satisfaction, therefore this Management has decided to establish a Quality and Environmental policy, by means of installation a Quality and Environmental Management System that becomes us capable to comply the requirements demanded by the standard **ISO 9001 and ISO 14001** and by our Clients and concerned parts too.

Likewise, the enterprise Management is committed with the development and improvement of the Quality and Environmental Management System, through:

- The communication to all the company about the importance of satisfaction both in the client's requirements and in the legal and regulations.
- The Quality and Environmental Policy diffusion and the fixation of the Quality and Environment targets.
- To carry out revisions by the Management.
- To provide the needed resources.

2.2. Standard

The **SPS.HOME** product is designed, manufactured and commercialized in accordance with the standard **EN ISO 9001** of Quality Assurance. The CE marking shows the conformity to the EEC Directive (quoted between brackets) by means of the application of the following standards :

- **2006/95/EC** of Low Voltage Safety.
- **2004/108/EC** of Electromagnetic Compatibility (EMC).

In accordance with the harmonized standards. Reference regulations:

- **IEC/ EN 60950-1**: IT equipments. Safety. Part 1: General requirements.
- **IEC/EN 62040-2**: Uninterruptible Power Supplies (UPS). Part 2: Prescriptions for Electromagnetic Compatibility (EMC).
- **IEC/EN 62040-3:** Uninterruptible Power Supplies (UPS). Part 3: Specification methods of operating and test requirements.

2.3. Environment

Recycling the device at the end of its useful life:

Our company commits to use the services of authorised societies and according to the regulations, in order to treat the recovered product at the end of its useful life (contact your distributor).

Packaging: To recycle the packing, follow the legal regulations in force.

Batteries: Batteries mean a serious danger for health and environment. To dispose them, it has to be done according to the regulation in force.

3. Presentation

SPS.HOME series of **SALICRU** is an Off-Line UPS, which is available in 400 and 600VA power rates and it is built for its total adaptation in workstations both professionals and home.

With an attractive power strip appearance, its design goes much further on and it is converted into an efficient UPS able to give an autonomy up to 15 minutes and with transient voltage surge supressor too for the most common and used peripherals (printers, modems, telephone lines, etc.).

It includes three LED status indicators and one on/off button.

Communication and control of the equipment are available through a USB port and its management and monitoring software.

3.1. Views

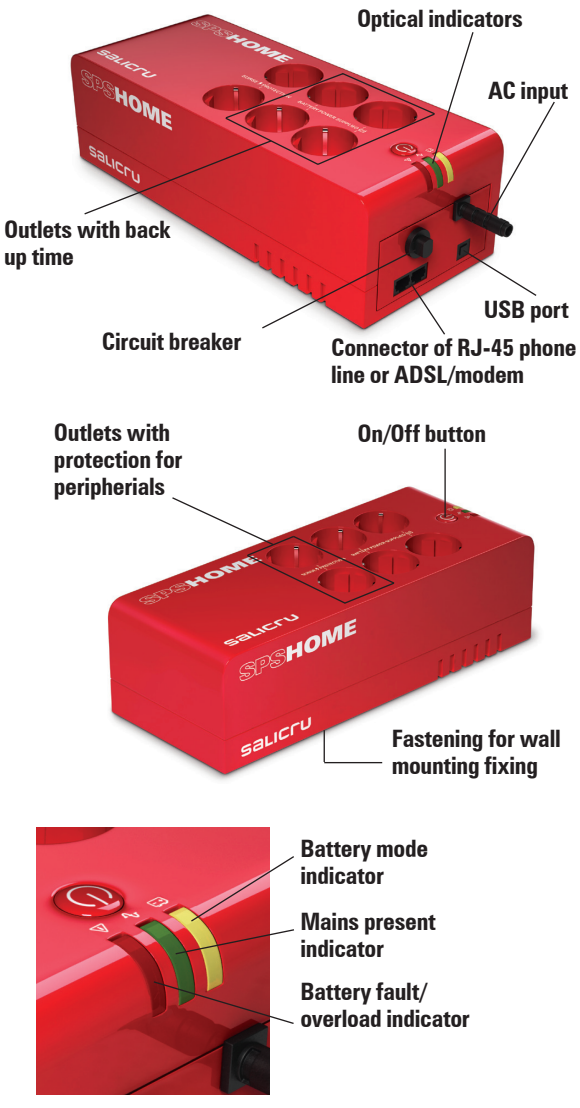


Fig. 1. *Equipment views and main parts*

3.2. Description of the system

3.2.1. Operating principle

Main function of a UPS is to supply, in case mains failure, all the equipments connected at its output, through its internal batteries, for a limited time (usually 10 minutes).

UPSs of Off-Line technology make the above, supply a similar voltage to the mains one for a period of time not less than 10 minutes, during mains failure.

UPS output is the input of the electrical mains. By means of a real time detection circuit, mains faults are detected, switching to batteries in less than 6ms. so the system will continue feeding the loads with simulated sinewave.

3.2.2. Main quality performances

- Off-Line technology
- Power strip design with 6 schuko outlets.
- 4 UPS outlets with back up time; all outlets are protected against overvoltages.
- On / Off button.
- 50 / 60 Hz frequency auto-sensing.
- LEDs indicators of mains present, battery mode and battery fault/overload.
- USB port for monitoring and file closing.
- Phone line/ADSL protection through RJ-45 port.
- Batteries replaced by the end-user easily.
- Overload protection through circuit breaker.
- Cold start function.
- Fastening for wall mounting fixing.
- Automatic restarting up function after mains fault and end of back up time.

4. Installation and operating

UPS installation is as easy as to follow the steps described as follows. Keep in mind to place in "ON" position both power switch and all loads connected at the outlets provided with back up time. Otherwise, UPS will remain disabled and the loads will not be supplied during a mains failure.

4.1. Important safety instructions

WARNING!! Read the following information carefully and keep this manual for future consults. To not keep in mind these warning can ward off a serious risk for the user, as well as for the physical integrity of the equipment and for the devices protected by it.

- Heatsink are alive. Risk of electrocution. Disconnect the unit after its use.
- Risk of electrocution. The equipment is supplied by more than one mains. To de-energize the unit after its use both AC and DC power supplies have to be disconnected.
- Risk of electrocution. There are a lot of parts alive inside the device, even with the input voltage is disconnected.
- Risk of electrocution. Do not remove the cover of the equipment. There are not useful parts for the user inside the equipment. Check/test has always to be done by qualified technical personnel.
- Replace the fuses by another of the same type and size to reduce risk of fire.
- Sum of UPS and connected devices earth leakage currents must not exceed 3,5 mA.
- Do not throw batteries into fire. Risk of explosion.
- Do not open or mutilate batteries. Electrolyte is toxic and harmful for skin and eyes.
- One battery can make a risk of electrocution and high short-circuit current. The following precautions have to be kept in mind:
  - ❒ Take off watches, rings or any other metallic object.
  - ❒ Use tools with isolated handles.
  - ❒ Wear gloves and rubber boots.
  - ❒ Do not leave tools or metallic parts over the batteries.
  - ❒ Disconnect the power supplies before connecting or disconnecting the battery terminals.
- Maximum ambient temperature is 40ºC.
- Batteries have to be replaced by qualified technical personnel only. Use sealed batteries of lead acid of same type and quantity.
- This equipment of type A with internal battery fitted in by the manufacturer is also installed and handled by the user.
- Inlet that supplies the UPS has to be near the device and with easy access.
- Battery is sealed type, of lead-acid and 6 cells.
- Φ symbol in the label means the phase.

WARNING!! Ask for qualified technical personnel always.

- To reduce risk of fire or electrocution, install the equipment in an environment with temperature and humidity are controlled, as well as free of conductive pollution.
- Risk of electrocution. Battery circuit is not isolated from AC input, so dangerous voltages can exist between the battery terminals and earth. Check it with a multimeter before its handling.

4.2. Inspection

Take the equipment out from its packaging and make a visual inspection in order to detect possible damages due to the transport. In case they were, pack the unit again and return it back to the distributor.

4.3. Location

Install the UPS in a location that guarantees a suitable air cooling flow and free of dust, smoke and conductive pollution. DO NOT OPERATE the UPS in a hot and/or high humidity environments.

UPS can be located over a flat surface or wall mounted fixed, through its rear slot holes .

4.4. Charge

This unit is packaged at factory with its internal battery completely charged. Nevertheless, it is possible that it has been discharged a little bit during transport, so battery has to be charged again before its use.

Plug the equipment to mains and allow the UPS to charge the battery completely, at least for 16-18 hours with no load connected at its output.

4.5. Connection of one computer

Connect any computer to any of the UPS schuko outlets with back up time. In case of mains failure, battery will provide the AC power supply.

4.6. Connection of peripherals devices

Plug the peripheral devices (printers, scanner, speakers, etc.) to the transient voltage surge supressor outlets, which will not supply any back up in case of mains failure.

Note: Do not connect laser printers, photocopiers, heaters or other electrical devices with high consumption to the UPS. Power requirements of those devices will overload it and it could be damaged.

4.7. Connection of Modem / Phone line

Connect a phone cable into the RJ-45 input connector, and use the other one into the output to protect the phone, modem or fax from possible transient voltages.

4.8. Connection of communications

Connect the USB serial cable to the USB port to establish the communication between the UPS and computer. With Winpower software installed, UPS status can be remote monitored, as well as to make a shutdown / automatic and unattended start up.

4.9. Start up / shutdown

- Press the button to start up the SPS.HOME.
- Press the button again to shut it down.

4.10. ColdStart function

ColdStart function makes possible to start up the UPS when there is no mains and battery is completely charged.

Press the ON button to start up the UPS only.

5. Free download of WinPower software

WinPower - free software.
WinPower is the brand of the new UPS monitoring software, which makes a friendly interface of monitoring and managing. This software provides an auto Shutdown for the system based on several PCs in case of mains failure. With this software, end-users can monitor and manage any UPS connected to the same LAN network, doesn't matter the distance among them.

Installation procedure:
Insert the supplied CD. The installation assistant will start up automatically. Follow the steps described by itself.
When it is required, enter the serial number that is silk-screened in the CD.

When the PC is rebooted, WinPower software will be shown as a green plug icon in the system tray, near the clock.

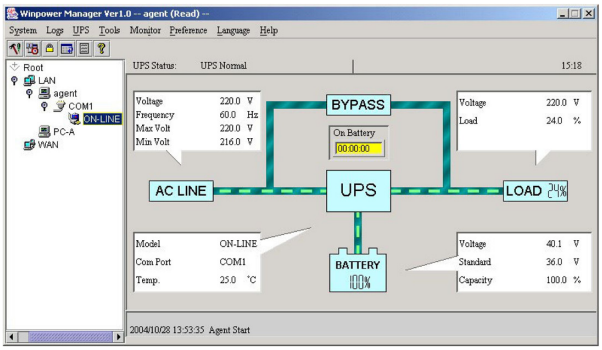


Fig. 2. *Graphic view of WinPower software*

6. Maintenance, warranty and service

6.1. Troubleshooting guide

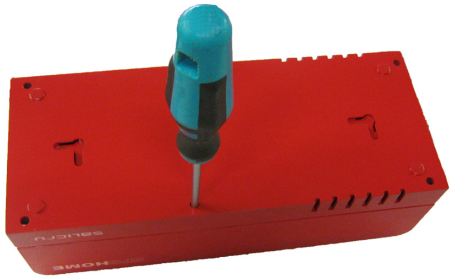
If the UPS doesn't work properly, check the following points before advising the S.T.S.

Symptom	Possible cause	Solution
Yellow LED lights, but the alarm beeps intermittently	UPS is not connected to mains properly	Connect the UPS according to the installation guide
UPS works but the alarm beeps continuously	UPS overloaded	Check the connected load is not excessive
Communication between UPS and computer has been lost	· Software has not been installed properly · Cable is not connected properly	· Check the software settings · Check that the USB cable is connected firmly into the computer COM1/COM2 ports and check the settings

6.2. Battery replacement

WARNING: Battery replacement has to be done by qualified technical personnel. Follow the next steps to replace it.

1. Remove the screws located in the bottom side of the UPS and open the cover of the battery enclosure.



2. Once the cover is removed, take out the battery from its location carefully.

3. Disconnect both cables from their terminals and connect the new battery. Recycle used battery accordingly.

6.3. Warranty conditions

Warranty is limited by **SALICRU, S.A.** and it is only applied to acquired products for commercial or industrial use in the development of the business.

6.3.1. Covered product

Uninterruptible power supply **SPS.HOME** series.

6.3.2. Warranty terms

SALICRU, S.A. guarantees this product against any parts and/or labour defect for 12 months period from its commissioning by personnel of **SALICRU, S.A.** In case of failure of the product inside the warranty period, **SALICRU, S.A.** must repair, at your facilities at no cost, the faulty part or parts. The transport expenses and packaging will be borne to the user.

For equipments installed out from Spanish market, contact the Export department.

SALICRU, S.A. guarantees for period time higher than 10 years, the availability of parts and spare parts, as hardware as software, as well as a complete assistance regarding the reparations, components replacement and software updating

6.3.3. Out of scope of supply.

SALICRU, S.A. will not be forced by the warranty if it appreciates that the defect in the product doesn't exist or it was caused by a wrong use, negligence, installation and/or inadequate testing, tentative of repairing or not authorized modification, or any other cause beyond the foreseen use, or by accident, fire, lightnings or other dangers. Neither it will cover, in any case, compensations for damages or injuries.

6.4. Description of available contract and services

When the warranty is expired, **SALICRU, S.A.,** adapting to the customer's needs, has several maintenance modalities:

- **Preventive**. It guarantees a higher safety to preserve the correct operating of the equipments with a yearly preventive visit, in which the specialised technicians of **SALICRU, S.A.** make several tests and sets to the systems:
  - ❒ Check and write down the input and output voltages and currents per phase.
  - ❒ Check the logged alarms.
  - ❒ Check the measurements of the LCD panel.
  - ❒ Other measurements.
  - ❒ Check the fan status.
  - ❒ Check the load level.
  - ❒ Check the selected language.
  - ❒ Check the correct location of the equipment.
  - ❒ Make a general cleaning of the equipment.

  This way, it is guaranteed the perfect operating and the possible coming faults are avoided.

  These supervisions are usually done without shutdown the equipment. In those cases that a shutdown were needed, a date and time would agree with the customer to do the task.

  This maintenance modality covers, inside the working timetable, all the journey expenses and manpower.

- **Corrective.** When a fault occurs in the equipment operating, and previous notice to our Service and Technical Support **(S.T.S.)**, in which a specialized technician will establish the failure scope and he will determine a first diagnostic, the corrective action starts.

  The needed visits for its correct resolution are unlimited and they are included inside the maintenance modalities. It means that **SALICRU, S.A.**, in case of failure, will check the equipments as many times as it were needed

  Besides, inside these two modalities, is possible to fix the **action timetable and response times** in order to be adapted to the customer's needs:
  - ❒ **LV8HLS.** Customer's attention from Monday to Friday from 9 h. to 18 h. The response time is inside the same day or, as maximum, in the next 24 hours of the fault notification.
  - ❒ **LS14HLS.** Customer's attention from Monday to Saturday from 6 h. to 20 h. Response time is inside the same day or, as maximum, at first time of the next working day.
  - ❒ **LD24HLS.** Customer's attention from Monday to Sunday 24 h., 365 days per year. Response time in less than two or three hours after the fault notification.
- **Additional arrangement: 1-m-cb.**
  - ❒ **Index 1.** It means the number or **preventives** visits per year. It includes travelling and manpower expenses inside the established timetable for each maintenance modality, as well as all the needed **correctives** visits. Excluding all the parts and batteries in case of reparation.
  - ❒ **Index m.** It means to include all the parts.
  - ❒ **Index cb.** It means to include the batteries.

6.5. Technical service network

The covering, as national as international, of Service and Technical Support **(S.T.S.)** points, are made up by:

At national level:

Andorra, Barcelona, Madrid, Bilbao, Gijon, A Coruña, Las Palmas de G. Canaria, Malaga, Murcia, Palma de Mallorca, San Sebastian, Santa Cruz de Tenerife, Seville, Taco (La Laguna - Tenerife), Valencia and Zaragoza.

At international level:

France, Brazil, Hungary, Portugal, Singapore, U.K., China, Mexico, Uruguay, Chile, Venezuela, Colombia, Argentina, Poland, Philippines, Malaysia, Pakistan, Morocco, Thailand, United Arab Emirates, Egypt, Australia and New Zealand.

7. Annexes

7.1. Technical specifications

		SPS.400.HOME	SPS.600.HOME
CAPACITY	VA/W	400 VA / 200 W	600 VA / 300 W
TECHNOLOGY		Off-Line	
INPUT	Nominal voltage	230 VAC, single phase	
	Voltage range	From 170 VAC to 265 VAC	
	Frequency	50 / 60 Hz, ±10%, autosensing	
OUTPUT (Inverter mode)	Nominal voltage	230 VAC	
	Voltage accuracy	±10%	
	Frequency	50 Hz / 60 Hz ± 1%	
	Wave shape	Simulated sinewave	
TRANSFERENCE TIME	Typical	2 - 6 ms.	
BATTERY	Type of battery	12V / 4,5Ah*1 or 12V 16W or equal capacity	12V / 5Ah*1 or 12V 21W or equal capacity
	Recharging time	16 hours maximum (recharging at 90% of the capacity)	
	Back up time (1 PC as load) typical 100W	6-11 minutes	10-15 minutes
FUNCTIONS	ColdStart	Yes	
	Automatic restart	Yes	
DISPLAY	LED	Mains, autonomy, fault	
ACOUSTIC ALARM	Battery mode	Alarm beeps every 5 seconds	
	Low battery	Alarm beeps every second	
	Overload	Alarm beeps twice per second	
	Fault	Continuous acoustic alarm	
PROTECTION	Complete protection	Overload, battery overcharged, short-circuit and protection for modem / phone line	
PHYSICAL	Dimensions (D x W x H)	295 x 120 x 85 mm.	
	Net weight	3,2 Kg.	3,5 Kg.
	Schuko outlets	6 outlets (2 with protection, 4 with autonomy + protection)	
ENVIRONMENTAL	Maximum altitude	3.500 m.a.s.l.	
	Operating temperature	0 - 40 ºC	
	Humidity	Up to 95%, non-condensing	
	Acoustical noise at 1 metre	< 40 dB	
INTERFACE	USB port	Monitoring and management for Windows, Linux, Unix and Mac platforms	
STANDARD	Safety	EN 62040-1-1; EN 60950-1	
	Electromagnetic compatibility (EMC)	EN 62040-2	
	Operating	EN 62040-3	
	Marking	CE	
	Quality and Environmental Management	ISO 9001 and ISO 14001 TÜV	

NOTES:

NOTES:

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THAILAND
VIETNAM

Product Range

Uninterruptible Power Supply UPS
Lighting Flow Dimmer-Stabilizers
Power Supplies
Static Inverters
Photovoltaic Inverters
Microturbines
Voltage Stabilisers

Nota: Salicru can give other electronics solutions according to the application specifications or technical specifications.